DOCUMENT RESUME

ED 239 096 CE 037 971

AUTHOR Ruby, Ralph, Jr.
TITLE Increasing Use of Microcomputers in Business Education.
PUB DATE 5 Dec 83
NOTE 13p.; Presented at the American Vocational Association Convention (Anaheim, CA, December 5, 1983).
PUB TYPE Viewpoints (120) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Business Education; *Computer Assisted Instruction; *Computer Managed Instruction; Computer Programs; *Curriculum Development; Diagnostic Teaching; Faculty Development; High Schools; Material Development; *Microcomputers; Secondary Education; *Teacher Education

ABSTRACT

In some aspects, high school business education is the answer to the computer advocate's prayer. Because business education on the secondary level deals in part with numbers, measurement, word processing, and transfer of data by electronic means, it invites computer-aided instruction (CAI) and computer-managed instruction (CMI). The first requirement for the introduction of CAI is to develop teacher understanding of the computer. Higher education, inservice courses, and training programs are needed in keyboarding, word processing, spreadsheet, and database management. What is business education doing regarding use of microcomputers? It is not emphasizing the need for good keyboarding competence; it is neglecting English language instruction; it uses software designed for business as courseware. Business education needs are development of computer-assisted diagnostic (CAD) and prescriptive instruction (PI) and courseware that contains teacher management programs. The leaders in business education need to design a new curriculum to reflect the infusion of the microcomputer. New course titles and outlines are needed. Courseware needs to be developed to incorporate CAD, PI, and teacher management programs, and teachers need to be retrained in the use of the microcomputer and its appropriate courseware. (YLB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED239096

INCREASING USE OF MICROCOMPUTERS IN BUSINESS EDUCATION

BY DR. RALPH RUBY, JR., ASSOCIATE PROFESSOR AND COORDINATOR OF VOCATIONAL BUSINESS EDUCATION, ARKANSAS STATE UNIVERSITY, JONESBORO, ARKANSAS

PRESENTED MONDAY DECEMBER 5, 1983, ANAHEIM, CALIFORNIA

TO

NATIONAL ASSOCIATION OF TEACHER EDUCATORS IN BUSINESS EDUCATION

AND

NATIONAL ASSOCIATION OF SUPERVISORS IN BUSINESS EDUCATION

AT THE AMERICAN VOCATIONAL ASSOCIATION CONVENTION

(SPONSORED BY SCIENCE RESEARCH ASSOCIATES -- SRA)

IT IS INDEED A PLEASURE FOR ME TO BE PRESENT THIS DAY AND TO HAVE THE OPPORTUNITY TO VISIT WITH THIS MOST IMPORTANT GROUP OF BUSINESS EDUCATION LEADERS ON THE TOPIC OF THE INCREASING USE OF MICROCOMPUTERS IN BUSINESS EDUCATION. I THANK SRA FOR SPONSORING THIS FINE LUNCH AND FOR THEIR ROLE IN THE DEVELOPMENT OF EDUCATIONAL MATERIALS FOR BUSINESS EDUCATION.

I PLAN TO DISCUSS THREE AREAS ON THE TOPIC THIS DAY. THESE BEING:

1. WHAT DO MICROS MEAN FOR BUSINESS EDUCATION,
2. WHAT ARE WE DOING, AND
3. HELP

IT IS ALMOST IMPOSSIBLE TO IMAGINE AN AMERICAN LIFE STYLE THAT HAS NOT BEEN AFFECTED BY MODERN TECHNOLOGY. IN THE HOME, MICROWAVE OVENS, ELECTRONIC SECURITY SYSTEMS, THERMOSTATS AND ELECTRONIC VIDEO GAMES ARE COMMONPLACE. IN FACTORIES, ROBOTS ARE PERFORMING MANY ROUTINE JOBS AND SOME TOO DANGEROUS FOR WORKERS. IN THE OFFICE, A WORD PROCESSOR CAN EDIT, DELETE, FORMAT, SAVE, AND TRANSFER FILES FROM ONE SECTOR TO ANOTHER. FROM

FE037971

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

R Ruby

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ONE DISK TO ANOTHER, OR FROM ONE COAST TO THE OTHER -- ELECTRONICALLY. FROM THE TELLER IN THE BANK AND THE TICKET SELLER AT A BASKETBALL GAME TO THE CHECKOUT COUNTER AT THE LOCAL SUPERMARKET, COMPUTERS TOUCH OUR LIVES DAILY. AS THE REPORT OF THE NATIONAL COMMISSION ON EXCELLENCE IN EDUCATION MAKES STRIKINGLY CLEAR, SCHOOLS CANNOT AFFORD TO IGNORE THE REVOLUTIONARY IMPACT OF THE COMPUTER.

THE DRILLS-PRACTICE AND PROBLEM-SOLVING CAPABILITIES OF THE COMPUTER, HAS A POSSIBLE IMPACT FOR ALL BUSINESS EDUCATION SUBJECTS AND MAKES KNOWLEDGE OF THE COMPUTER A NECESSARY COMPONENT. TRAINING IN COMPUTER USEAGE IS ALREADY BEING GIVEN AS EARLY AS THE PRIMARY GRADES.

LET'S VISIT A USER'S GROUP PAST TO SEE WHAT IS BEING DISCUSSED. THINK OF US AS BEING TRANSPORTATED TO SOMEWHERE, USA WHERE A LOCAL USER'S GROUP IS HOLDING ITS MONTHLY MEETING.

THE CLUB IS SMALL, OLD, ALMOST EXCLUSIVELY MALE, AND MADE UP OF COMPUTER HACKERS, PEOPLE WHO ENJOY ROLLING UP THEIR SLEEVES AND DIVING INTO THE BITS, BYTES, CHIPS, AND CIRCUIT BOARDS THAT MAKE UP THE AVERAGE COMPUTER.

THE MEETING IS SOLID TECHNICALLY, AND THE PEOPLE ARE ALL VERY NICE. NOW WE ARE BEING TRANSPORTED BACK TO OUR AVA MEETING AND WE FEEL A LITTLE DRAINED. WE THINK -- THE CLUB MEMBERS CALLED THEMSELVES "ENTHUSIASTS," BUT WHERE WAS THEIR ENTHUSIASM?

COMPUTER "HACKERS" WERE THE PIONEERS OF MICROCOMPUTING. THEY WERE THE ENTHUSIASTS -- THE ZEALOTS, EVEN -- WHO GOT THIS INDUSTRY STARTED, IN THE 1960'S AND THE 1970'S. NOW WE'RE IN THE MID-1980'S, AND WHAT HAS HAPPENED TO THE HACKERS? THEY'RE THE COMPUTER ELDERS WHO ARE BEING SHOVED ASIDE BY A STAMPEDING HORDE OF NEW MICRO USERS WHO SEEM TO SHARE NONE OF THEIR CHARACTERISTICS.

WHAT ARE THE "NEW" MICRO USERS LIKE?

AGAIN, WE ARE GOING TO BE TRANSPORTED TO A MEETING. THIS TIME WE WILL VISIT A LOCAL COMPUTER FAIRE HERE IN ANAHEIM, CA. WE IMMEDIATELY NOTICE THAT THIS GROUP IS DIFFERENT. THE BEST WAY TO DESCRIBE THE NEW MICRO USERS IS TO SAY THAT THEY ARE THE KIND OF CROWD YOU MIGHT FIND AT AN AVA CONVENTION. THERE ARE A LOT OF THEM. AND THEY ARE YOUNG (LIKE US), OLD, AND IN BETWEEN. THERE ARE A LOT OF WOMEN AND SOME CHILDREN TOO.

THE NEW MICRO USERS TALK FUNNY, ALMOST LIKE REGULAR PEOPLE. YOU DON'T HEAR A LOT ABOUT BITS AND BYTES. INSTEAD, YOU HEAR ABOUT COMPUTER MODEL NUMBERS, AND COMPUTER COMPONENTS, AND COMPUTER SOFTWARE. MOST OF THE DISCUSSION CENTERS ON WHO HAS WHAT PIECE OF NEW SOFTWARE AND FOR WHICH MACHINE, AND HOW IT'S THE "NEATEST THING YOU'VE EVER SEEN."

ANOTHER DISTINGUISHING CHARACTERISTIC OF THIS NEW GROUP FROM THE OLD-LINE HACKERS IS THEIR ENERGY. EVERYONE IS SO EXCITED. PARENTS ARE EXCITED ABOUT BRINGING ALL THE NEW EDUCATIONAL PROGRAMS INTO THEIR HOMES. KIDS ARE EXCITED ABOUT THE GAMES. TEACHERS ARE EXCITED ABOUT THE DIFFERENT WAYS THEY CAN USE THE MICRO'S IN THEIR CLASSROOMS. WE SENSE SOME FEAR AND ANXIETY IN THIS GROUP, TOO -- A CERTAIN TENTATIVENESS ABOUT REALLY MOVING INTO THIS STRANGE NEW WORLD. BUT MOSTLY WE SENSE EXCITEMENT -- A LOT OF IT.

AND THE QUESTIONS. HERE IS WHERE THE "OLD" COMPUTER HACKERS AND "NEW" HACKERS DIVERGED COMPLETELY. THE HACKERS ASKED HOW SOLDERING ON CERTAIN BOARDS IS DONE AND ABOUT WHICH SECTION OF MEMORY IS SWITCH SELECTABLE. THE

"NEW" HACKERS ASKED HOW MICROS FOR VERY YOUNG KIDS WOULD ALTER THE WAY KIDS DEVELOP THEIR FINE MOTOR SKILLS AND THE WAY THAT THEY GET ALONG WITH OTHER PEOPLE.

ARE WE IN BUSINESS EDUCATION DEVELOPING OUR THINKING ALONG THE LINES OF THE "OLD" OR "NEW" HACKERS.

I WOULD LIKE TO THINK OF THE "OLD" HACKERS AS THE COMPUTER SCIENCE INDIVIDUALS (THE OTHER GUYS -- THE MATHEMATICS DEPARTMENT IF YOU WISH) -- THOSE CONCERNED WITH THE WORKINGS OF THE INSIDE OF THE MICRO. THOSE INDIVIDUALS WHOSE TERRITORY IS FROM THE ELECTRICAL PLUG TO THE MOTHERBOARD INCLUDING THE DISK DRIVES AND HOW THEY OPERATE. I WOULD ALSO LIKE TO THINK OF THE "NEW" HACKERS AS THE BUSINESS EDUCATION DISCIPLINE -- THOSE CONCERNED WITH WHAT, HOW, WHEN, WHERE, AND SOMETIMES WHY THINGS APPEAR ON THE SCREEN AND WHAT, HOW, WHEN, WHERE, AND WHY WE KEYBOARD THE WAY WE DO! THIS SENARIO SETS THE FOUNDATION OR PARAMETERS FOR WHAT FOLLOWS.

I. WHAT DO MICROS MEAN FOR BUSINESS EDUCATION?

THE REPORT OF THE NATIONAL COMMISSION ON EXCELLENCE IN EDUCATION RECOMMENDS THAT STUDENTS SHOULD BE EQUIPPED WITH THE KNOWLEDGE TO UNDERSTAND THE COMPUTER AS AN INFORMATION, COMPUTATION, AND COMMUNICATION DEVICE; AND FOR PERSONAL AND WORK-RELATED PURPOSES; AND TO UNDERSTAND THE WORLD OF COMPUTERS, ELECTRONICS, AND RELATED TECHNOLOGIES.

ADVOCATES OF THE COMPUTER TELL US THAT COMPUTERS ARE EXCELLENT LEARNING TOOLS; THEIR PATIENCE IS UNLIMITED; THEIR SPEED UNSURPASSED AND THEY ARE STRICT DISCIPLINARIANS WHO UPHOLD HIGH STANDARDS. COMPUTERS WILL NOT ACCEPT CARELESS THINKING. TO TALK TO A COMPUTER, WE MUST ADDRESS IT

WITH CLEAR, LOGICAL INSTRUCTIONS. IF WE ARE SLOPPY IN OUR PHRASING OR IMPRECISE IN OUR SYNTAX, THE COMPUTER IN EFFECT LOOKS THE OTHER WAY. WE MUST TRY AGAIN UNTIL WE GET IT RIGHT. IN DEALING WITH THE COMPUTER, ONE MUST NEVER FORGET THAT THE FAMILIAR PHRASE APPLIES -- "GARBAGE IN, GARBAGE OUT!" FOR VALID OUTPUT ONE MUST HAVE VALID INPUT.

IN SOME ASPECTS HIGH SCHOOL BUSINESS EDUCATION IS THE ANSWER TO THE COMPUTER ADVOCATE'S PRAYER. SINCE ON THE SECONDARY LEVEL BUSINESS EDUCATION DEALS IN PART WITH NUMBERS, MEASUREMENT, WORD PROCESSING AND TRANSFERRING DATA BY ELECTRONIC MEANS, IT INVITES COMPUTER AIDED INSTRUCTION (CAI), COMPUTER MANAGED INSTRUCTION (CMI), AND ANOTHER AREA THAT I WILL DISCUSS LATER.

THE FIRST REQUIREMENT FOR THE INTRODUCTION OF COMPUTER-AIDED INSTRUCTION IS TO DEVELOP TEACHER UNDERSTANDING OF THE COMPUTER. IN AN INCREASINGLY COMPUTERIZED WORLD WE CANNOT EXPECT OUR STUDENTS TO GRADUATE WITH COMPUTER COMPETENCY UNLESS OUR TEACHERS ARE FIRST FAMILIAR WITH THE COMPUTER. ALAS, MICROCOMPUTERS ARE MUCH EASIER TO MASS PRODUCE THAN COMPUTER LITERATE TEACHERS. WE MUST THEREFORE PROVIDE NEW COURSES AT THE COLLEGIATE LEVEL. AT THE STATE LEVEL WE MUST PROVIDE MORE DIRECTLY RELATED IN-SERVICE PROGRAMS. I SEE THE NEED FOR HIGHER EDUCATION AND IN-SERVICE COURSES AND TRAINING PROGRAMS COVERING TOPICS IN THE FOLLOWING FOUR AREAS:

1. KEYBOARDING,
2. WORD PROCESSING,
3. SPREADSHEET, AND
4. DATABASE MANAGEMENT

ALL OF THIS IS HIGHLY DEPENDENT ON QUALITY COURSEWARE FOR THE COURSEWARE PROVIDES THE INSTRUCTIONS THAT TELLS THE COMPUTER WHAT TO DO. LIKE AN INDIVIDUAL WITHOUT FOOD, A MICRO GOES NOWHERE WITHOUT COURSEWARE.

II. WHAT ARE WE DOING?

1. IT APPEARS THAT BUSINESS EDUCATION IS NOT EMPHASISING THE NEED FOR GOOD KEYBOARDING COMPETENCE. THE REASON I SAY THIS IS THE FACT THAT BASIC AS A PROGRAMMING LANGUAGE IS SWEEPING THE SCHOOL SYSTEMS WHILE KEYBOARDING IS STILL THOUGHT OF -- WELL IT'S JUST TYPEWRITING ON A MICRO! WITH THE INTRODUCTION OF THE MICROCOMPUTER, KEYBOARDING SKILLS HAVE NEVER BEEN MORE IMPORTANT. WE HAVE AN OPPORTUNITY TO OFFER A COURSE THAT PARENTS WILL MANDATE THEIR CHILDREN TO TAKE, IF WE DO OUR HOMEWORK AND PUBLIC RELATIONS PROPERLY. OUR KEYBOARDING COURSE COULD BE A "REQUIRED" COURSE THAT EVERY STUDENT SHOULD AND MUST TAKE TO SURVIVE IN THIS COMPUTER WORLD. HOWEVER, THE KEYBOARDING COURSE AS WE PRESENTLY KNOW IT MAY NOT EXIST IN A COUPLE OF YEARS. IT MAY NOT BE A FULL YEAR OR EVEN A FULL SEMESTER OFFERING. IN FACT IT MAY NOT BE OFFERED AT THE SECONDARY LEVEL. IS THIS BAD? WHO SAID THAT WE HAVE TO WAIT FOR STUDENTS TO BE IN HIGH SCHOOL BEFORE OFFERING A COURSE THAT WE CAN AND MUST TEACH TO SURVIVE. WE HAVE SO MUCH GOING FOR US THAT I UNDERSTAND THAT SOME BUSINESS EDUCATION TEACHERS DON'T WANT TO TEACH KEYBOARDING IN THE MIDDLE OR ELEMENTARY SCHOOLS. I DON'T BELIEVE THAT BUSINESS EDUCATION CAN AFFORD THIS LUXURY AND SURVIVE!

2. IT APPEARS THAT BUSINESS EDUCATION IS NEGLECTING A NEEDED AREA?

WHAT DO EMPLOYERS WANT MOST OF OUR STUDENTS? OUR NATIONAL HONORARY GRADUATE FATERNITY IN BUSINESS EDUCATION (DPE) HAS CONDUCTED A NATIONAL

STUDY WHICH INDICATES THAT EMPLOYERS PREFER THAT OUR GRADUATES HAVE -- A BETTER COMPREHENSIVE UNDERSTANDING OF THE ENGLISH LANGUAGE. THE CARNEGIE REPORT ALSO HAS AS ITS TOP PRIORITY THE NEED FOR MASTERY OF THE ENGLISH LANGUAGE. ARE WE DESIGNING COURSEWARE TO HELP OUR STUDENTS TO IMPROVE IN THIS AREA? YOU AND I CAN INFLUENCE COURSEWARE DEVELOPERS IN THIS AREA -- WE NEED TO FOR OUR SURVIVAL. WE CAN NOT CONTINUE TO GRADUATE STUDENTS WHO ARE DEFICIENT IN THIS IMPORTANT AREA.

3. IT APPEARS THAT BUSINESS EDUCATION IS USING SOFTWARE DESIGNED FOR BUSINESS IN OUR CLASSROOMS AS COURSEWARE?

WHY DO WE CONTINUE TO BRING SOFTWARE DESIGNED FOR THE BUSINESS COMMUNITY INTO OUR CLASSROOMS AND USE IT AS COURSEWARE?

SHOULD WE BE ATTEMPTING TO TEACH OUR STUDENTS THE HIGHLY SOPHICATED SOFTWARE PACKAGES DESIGNED FOR WORD PROCESSING, SPREADSHEET, AND DATA-BASE MANAGEMENT. SOME OF THESE PACKAGES INCLUDE WORD, MULTIMATE, WORDSTAR, SUPERSCRIPTSIT, MULTIPLAN, LOTUS 1 - 2 - 3, VISICALC, AND PEACHTEXT. SOME BELIEVE THAT WE SHOULD BE ENCOURAGING THE DEVELOPMENT OF LESS SOPHICATED COURSEWARE IN THESE AREAS FOR INTRODUCTION OF THE "SIMPLE" COMMANDS. THIS COURSEWARE WOULD BE USED AT THE SECONDARY LEVEL WITH "MORE DIFFICULT" COURSEWARE TO BE USED AT THE POST-SECONDARY LEVEL. IN ADDITION WE SHOULD BE LOOKING FOR EXCELLENT COURSEWARE DEVELOPMENT IN THE AREA OF KEYBOARDING. COURSEWARE THAT CONTAINS DIAGNOSTIC AND PRESCRIPTION REMEDIES.

4. IT APPEARS THAT BUSINESS EDUCATION IS IN NEED OF COURSEWARE THAT WILL DIRECTLY HELP OUR INSTRUCTORS TO IMPROVE THE BUSINESS EDUCATION PROFESSION.

WE SHOULD BE ENCOURAGING THE DEVELOPMENT OF CAD PI -- COMPUTER ASSISTED DIAGNOSTIC AND PRESCRIPTION INSTRUCTION. WITH THIS TYPE OF COURSEWARE THE INSTRUCTOR WOULD BE GIVEN ASSISTANCE IN AN AREA THAT THE MICRO CAN PERFORM IN AN EFFICIENT, ACCURATE, AND FAST MANNER. THE STUDENT WOULD BE DIAGNOSISED INSTANTLY AND THE INSTRUCTOR WOULD BE ALERTED THAT A STUDENT WAS CONSISTENTLY MISSING AN "A" OR A "T" AFTER EVER "H" AND THEN PRESCRIBE CORRECTIVE PRACTICE TO REMEDY THE DEFICIENCY. IN ADDITION TIMED WRITINGS WOULD BE TIMED BY THE MICRO WITH PROOFREADING AND POSSIBLE SPECIFIC IDENTIFICATION OF ERRORS PERFORMED BY THE MICRO. A STUDENT MANAGEMENT PROGRAM WOULD KEEP A RECORD OF THE GWPM (OR OTHER METHOD), THE NUMBER OF ERRORS, AND THE TYPE(S) OF ERRORS. AT LAST THE TYPING (FORGIVE ME) THE KEYBOARDING INSTRUCTOR WOULD NOT HAVE TO TAKE HOME TIMED WRITINGS OR PRODUCTION WORK LIKE LETTERS, MEMOS, OR TABULATION PROBLEMS TO GRADE. PRODUCTION WORK WOULD BE GRADED BY THE MICRO WITH INFORMATION PROVIDED FOR THE INSTRUCTOR. ALL ERRORS WOULD BE RECORDED BY CATEGORY. THEN DIAGNOSISED AND PRACTICE MATERIAL PRESCRIBED.

5. IT APPEARS THAT BUSINESS EDUCATION IS IN NEED OF COURSEWARE THAT CONTAINS TEACHER MANAGEMENT PROGRAMS.

THESE PROGRAMS WOULD MAINTAIN FILES OF STUDENT PROGRESS. THE PROGRAM WOULD LIST ALL OF THE COMPETENCIES NECESSARY FOR A COURSE, AND AS THE STUDENT COMPLETED EACH COMPETENCY THE COMPUTER WOULD "AUTOMATICALLY" CHECK THEM OFF. GRADES WOULD AUTOMATICALLY BE FIGURED -- NOT LIKE THE SO CALLED GRADE BOOKS THAT ARE PRESENTLY ON THE MARKET. BUT, RATHER THE PROGRAMS WOULD INCORPORATE USER-FRIENDLY MENUS THAT WOULD ASK THE INSTRUCTOR

1. IS TODAY'S WORK PRACTICE OR PERFORMANCE (FOR GRADING)

2. WHAT PERCENTAGE WILL THIS WORK COUNT

3. AND OTHER USER-FRIENDLY QUESTIONS.

BY USING THIS APPROACH ALL INVOLVED WITH THE EDUCATION OF THE STUDENT WILL BE INSTANTANEOUSLY INFORMED AS TO THE PROGRESS OF EACH STUDENT. IF THE GRADING SYSTEM IS A, B, C, ETC. THE MICRO WILL CONVERT NUMERIC FIGURES TO ALPHABETIC CHARACTERS.

YES, THE MICRO ERA IS HERE AND THE INSTRUCTOR CAN LOOK FORWARD TO BEING A TRUE MANAGER OF THE LEARNING PROCESS IF WE BEGIN DESIGNING AND DEVELOPING THE "NEW" GENERATION COURSEWARE CALLED CAD PI. IF WE CONTINUE TO USE "OLD" GENERATION COURSEWARE (WHICH IS NOTHING MORE THAN ELECTRONIC PROGRAMMED LEARNING ALA SKINNER AND CROWDER) MICRO'S WILL BECOME THE DINOSAUERS OF MANY TEACHING GAGETS PAST.

III. HELP!

THE BUSINESS EDUCATION PROFESSION IS ON THE BRINK OF AN ERA LIKE NONE PREVIOUS, BUT YOU ARE NEEDED. YOU, THE LEADERS OF BUSINESS EDUCATION CAN PUT BUSINESS EDUCATION BACK IN THE PROFESSIONAL POSITION THAT IT IS RIGHTFULLY ENTITLED TO HOLD. WHAT IS NEEDED?

FIRST -- THE LEADERS OF BUSINESS EDUCATION NEED TO BE HEARD FROM -- WE NEED TO BE GIVING DIRECTION FOR THE "NEW" BUSINESS EDUCATION PROFESSION.

SECOND -- THE LEADERS IN BUSINESS EDUCATION NEED TO PULL TOGETHER TO DESIGN A TOTALLY NEW CURRICULUM TO REFLECT THE INFUSION OF THE MICROCOMPUTER. NEW COURSE TITLES ARE NEEDED AS WELL AS NEW COURSE OUTLINES.

SUCH COURSE TITLES AS:

NEW TITLE	OLD TITLE
MICRONUMERICS	OFFICE MACHINES
OFFICE TECHNOLOGY	OFFICE PRACTICE/OFFICE LABORATORY
KEYBOARDING	TYPEWRITING
WORD PROCESSING	TYPEWRITING II/OFFICE PRACTICE

MICROCOMPUTER APPLICATIONS I -- THIS COURSE WOULD COVER SIMPLE SPREADSHEET OPERATIONS

MICROCOMPUTER APPLICATIONS II OR ADVANCED MICROCOMPUTER APPLICATIONS -- THIS COURSE WOULD COVER SIMPLE DATABASE MANAGEMENT OPERATIONS

MICROCOMPUTER ACCOUNTING OR AUTOMATED ACCOUNTING -- THIS COURSE WOULD COVER ACCOUNTING I AND/OR II PROCEDURES USING ACCOUNTING SOFTWARE APPLICATIONS (THIS DOES NOT MEAN THAT MICROCOMPUTERS WOULD BE ELIMINATED FROM ACCOUNTING I AND II. HOWEVER, THEIR USE WOULD BE LIMITED TO COURSEWARE DESIGNED TO REINFORCE THE FUNDAMENTALS OF THE ACCOUNTING EQUATION, JOURNALIZING, POSTING, ETC.

DOES THIS MEAN THAT WE NEED TO EXPAND OUR CURRICULUM OFFERINGS -- ABSOLUTELY. WE HAVE AN OPPORTUNITY TO TRAIN ALL STUDENTS FOR THE MICROCOMPUTER APPLICATION ERA.)

THIRD -- COURSEWARE NEEDS TO BE DESIGNED AND DEVELOPED TO INCORPORATE CAD PI AND TEACHER MANAGEMENT PROGRAMS.

FOURTH -- OUR TEACHERS NEED TO BE RETRAINED. NOT SO MUCH IN COMPUTER LANGUAGES BUT IN THE USE OF THE MICRO AND ITS APPROPRIATE COURSEWARE.

FIFTH -- WE MUST REMEMBER THAT THE FUTURE STARTS TODAY AND THAT THE MICROCOMPUTER WAS DESIGNED AND BUILT FOR THE BUSINESS EDUCATION CURRICULUM.

SIXTH -- I WOULD LIKE TO SHARE THE FOLLOWING "HINTS FOR MICROCOMPUTERS IN THE CLASSROOM"

1. BEWARE OF STATIC ELECTRICITY -- ENCOURAGE THE USE OF CARPETING WITH COPPER LINING TO GROUND INDIVIDUALS

2. ENCOURAGE THE PURCHASE OF "LARGE SCREEN" (5 FEET) MONITORS FOR DEMONSTRATION PURPOSES

3. ENCOURAGE A MINIMUM OF 256K OF INTERNAL MEMORY (THIS IS PRESENTLY THE STANDARD OF BUSINESS). BE CERTAIN THAT THE INTERNAL MEMORY OF THE MICRO BEING PURCHASED CAN BE EXPANDED.

4. BE SURE THAT ALL KNOW HOW AND WHEN DISK DRIVES SHOULD BE CLEANED AND TESTED FOR ALIGNMENT

5. MICRO "CLASSROOM NETWORKS" ARE AROUND THE CORNER. WE MAY HAVE BEEN MISLED IN THE PAST BUT NETWORKS MAY BE THE "BEST" SYSTEM FOR SOME CLASSES

6. COMPUTER SCREEN SHOULD DISPLAY AT LEAST 80 COLUMNS OF TEXT (IN THE NEAR FUTURE LOOK FOR SCREENS TO DISPLAY FULL-PAGE TEXT WITH 132 COLUMNS)

7. PRINTERS SHOULD PRINT AT LEAST 132 COLUMNS. PROBABLY LETTER QUALITY PRINTERS ARE A LUXURY ITEM AND SHOULD BE CONSIDERED IF ONE HAS "EXTRA" MONEY TO SPEND

8. WHEN PURCHASING A MICRO BE CERTAIN THAT THE MICRO HAS A NUMERIC PAD OR THAT IT CAN BE PURCHASED AS AN OPTIONAL ITEM

9. IN THE NEAR FUTURE WE CAN LOOK FOR HARD DISK DRIVES CONTAINING 900 - 1,000 GIGABYTE

10. FOR EASE OF SERVICE CONSIDER PURCHASING MICRO'S COMPOSED OF COMPONENTS RATHER THAN SELF-CONTAINED UNITS.

11. WHEN USING A MICRO FOR WORDPROCESSING AND SPREADSHEET OPERATIONS A MONOCHROME SCREEN IS USUALLY THE BEST FOR TRAINING PURPOSES. COLOR MONITORS ARE GREAT FOR ART AND GRAPHIC WORK

12. DON'T BE AFRAID TO ASK QUESTIONS

THANK YOU FOR YOUR ATTENTION -- I WISH USE BEST FORTUNES IN THE CHALLENGING, EXCITING BUT, TRYING DAYS AHEAD'